

GENE PROFILING OF SINGLE OR MULTIPLE CELLS**Abstract**

An mRNA is amplified by (a) binding a first primer to a target mRNA, the
5 first primer comprising, in the 5' to 3' direction, a first known segment and an oligo T
segment; (b) transcribing a cDNA from said target mRNA by elongation of said first
primer with reverse transcriptase; and then (c) linking a second known segment to the
3' terminus of said cDNA. In a preferred embodiment the step of transcribing a cDNA
from said target mRNA is carried out so that at least one additional C residue is
10 produced on the 3' terminus of said cDNA, and the said step of linking a second
known segment to the 3' terminus of said cDNA is carried out by: (i) binding a second
bridge primer to said cDNA, said second primer comprising, in the 5' to 3' direction, a
second known segment and at least one G residue, said second primer having an
inactivated G residue on the 3' terminus thereof; and then (ii) further transcribing said
15 cDNA from second bridge primer by elongation of said at least one additional C
residue with reverse transcriptase so that a cDNA is produced having said first known
segment on the 5' terminus thereof and said second known segment on the 3' terminus
thereof. The method can be used to amplify a plurality of mRNAs together, even
though a small sample of mRNAs is available such as obtained from a single cell or
20 multiple cells obtained by laser capture microdissection from tissue or organs, and the
product of the amplification then used for gene family analysis or microarray
expression analysis.